Introduction
To investigate the use of fetal cerebroplacental ratio (CPR) to identify placental vascular malperfusion.

Methods
Sixty-five full-term pregnant women were studied prospectively in the third trimester of pregnancy. Doppler ultrasound examination of umbilical artery (UA), middle cerebral artery (MCA), and uterine artery (UtA) was performed at 35-40 gestational weeks. The pulsatility index (PI) was calculated. The CPR was calculated as the ratio between the MCA PI and the UA PI. All Doppler indices were converted into multiples of median (MoM), correcting for gestational age using reference ranges. CPR < 0.6765 MoM was regarded as abnormal value. Histological characteristics of placentas were classified as normal, histological chorioamnionitis, and vascular underperfusion.

Results
The CPR values of fetuses were not significantly associated with abnormal pathologic findings. Fetuses with an abnormal CPR value were significantly more likely to have an adverse composite perinatal outcome and higher rates of cesarean delivery. Cord gas analysis was not associated with low CPR value.

Conclusion
A low CPR was associated with increased rates of adverse composite perinatal outcome, but not associated with abnormal pathologic findings.